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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,085	04/30/2001	Michael T. Zhang	INTL-0578-US (P11466)	3980

7590 06/30/2004
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EXAMINER

CHANDRASEKHAR, PRANAV

ART UNIT	PAPER NUMBER
2115	6

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,085

Applicant(s)

ZHANG, MICHAEL T.

Examiner

Pranav Chandrasekhar

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendments filed on 4/12/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-3,8-13,16-20 and 22-27 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Helms [US Pat No. 6,748,545].

2. As per claim 1, Helms teaches

an external supply voltage terminal [DC/DC Fig 2. The DC/DC converter is viewed as comprising a terminal via which it supplies voltage to the processor.]; and

a circuit to provide an indication of a first supply voltage level to be furnished to the supply voltage terminal in response to receiving power from the terminal [col. 5 lines 1-29. The furnishing of the first supply voltage level is viewed as a response to the processor receiving power (voltage from DC/DC converter as dictated by the sleep voltage setting) from the terminal when the system is first powered on.].

3. As per claim 11, Helms teaches

providing an indication of a first supply voltage level to be furnished to a supply voltage terminal in response to receiving power from the terminal [col. 5 lines 1-29. The operating voltage level of the processor is viewed as the first supply voltage

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level. The indication of the operating voltage is driven in response to receiving power in the form of the sleep voltage from the terminal of the DC/DC converter.]; and

in response to the indication, establishing a voltage of the terminal substantially at the first supply voltage level [col. 5 lines 1-29].

4. As per claim 18, Helms teaches

an electronic device including an external supply voltage terminal, the electronic device providing an indication of a first supply voltage level to be furnished to the terminal in response to receiving power from the terminal [col. 5 lines 1-29]; and

a voltage regulator to provide power to the electronic device through the terminal to cause the electronic device to provide the indication and regulate a voltage of the terminal substantially at the first supply voltage level in response to the electronic device providing the indication [col. 5 lines 1-29. The DC/DC converter is viewed as a voltage regulator since it regulates the voltage supplied by its terminal to a voltage value as dictated by the operating voltage setting indicated by the processor (electronic device)].

5. As per claim 24, Helms teaches

voltage regulation circuitry to provide an output voltage in response to a reference voltage to power an electronic device [col. 5 lines 1-29. The sleep voltage is viewed as the reference voltage used to power the electronic device. The operating voltage as dictated by the processor is viewed as the output voltage.]; and

a circuit to set the reference voltage to a first level to cause the voltage regulation circuitry to regulate the output voltage substantially at a predetermined output

voltage level, and in response to an indication of a supply voltage level furnished by the electronic device, set the reference voltage substantially at a second supply voltage level to cause the voltage regulation circuitry to regulate the output voltage substantially at the supply voltage level indicated by the electronic device [col. 6 lines 64-65; col. 5 lines 1-29].

6. As per claims 2 and 12, Helms further teaches the circuit providing the indication in response to a second supply voltage level being furnished to the terminal, the second supply voltage level being independent from the indication [col. 5 lines 1-29. The operating voltage setting signals (indication) provided by the processor (circuit) is viewed as a response to the sleep voltage setting (second supply voltage level) furnished to the terminal].

7. As per claims 3,13,20 and 25, Helms further teaches the second supply voltage level comprising a relatively constant supply voltage level [col. 5 lines 7-8].

8. As per claims 8,16 and 22, Helms further teaches the electronic device comprising a central processing unit device [Fig 2].

9. As per claims 9,17 and 23, Helms further teaches the indication representing a voltage identification number [col. 5 lines 9-11].

10. As per claim 10, Helms further teaches the circuit not receiving power other than through the terminal [Fig 2. The processor (circuit) receives power only from the terminal of the DC/DC converter.]

11. As per claim 19, Helms further teaches the voltage regulator regulating the voltage of the terminal substantially at a second supply voltage level independent from

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the first voltage level to cause the electronic device to provide the indication [col. 5 lines 1-29].

12. As per claim 26, Helms further teaches the electronic device furnishing the indication in response to the output voltage being regulated substantially at the predetermined output voltage level [col. 5 lines 1-29. The sleep voltage level is viewed as the predetermined output voltage level.].

13. As per claim 27, Helms further teaches the indication representing a voltage identification number and the electronic device comprising a central processing unit [Fig 2; col. 5 lines 9-11].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 4-7, 14, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helms [US Pat No. 6,748,545].

15. As per claims 4 and 14, Helms does not explicitly teach another circuit separate from the first circuit to receive the first voltage supply level from the terminal.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Helms to separate a circuit receiving a first voltage supply level into two distinct circuits wherein both receive the first voltage supply level.

16. As per claim 5, Helms teaches the circuit comprising core circuitry of a central processing unit device [Fig 2].

Helms does not explicitly teach two separate circuits receiving a first voltage supply level from the terminal wherein one of the circuits is a central processing unit device.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Helms to incorporate two separate circuits receiving a first voltage supply level wherein one of the circuits is a central processing unit device.

17. As per claim 6, Helms does not explicitly teach
a die;

wherein said another circuit and the first circuit are fabricated on the die.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Helms to fabricate the two circuits on a die since a die is a well known medium on which circuits may be fabricated.

18. As per claims 7 and 15, Helms does not explicitly teach the circuit furnishing the indication in response to a second supply voltage level being furnished to the terminal and the first voltage supply level is furnished to the terminal in response to validation of the indication.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Helms to validate the indication prior to furnishing the terminal at the first supply voltage level in order to prevent an incorrect voltage level being furnished at the terminal due to a lack of validation.

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19. As per claim 21, Helms teaches the voltage regulator regulating the voltage of the terminal substantially at the first supply voltage level in response to validation of the indication.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Helms to validate the indication prior to regulating the voltage of the terminal substantially at the first supply voltage level in order to prevent an incorrect voltage level being furnished at the terminal due to a lack of validation.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pranav Chandrasekhar whose telephone number is 703-305-8647. The examiner can normally be reached on 8:30 a.m.-5:00 p.m..

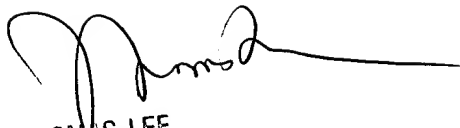
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on 703-305-9717. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2100.

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Pranav Chandrasekhar
June 17, 2004



THOMAS LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100